



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/692,743

10/27/2003

Takayuki Matsui

60188-691

8873

7590

04/19/2006

Jack Q. Lever, Jr.
McDERMOTT, WILL & EMERY
600 Thirteenth Street, N.W.
Washington, DC 20005-3096

EXAMINER

WEINMAN, SEAN M

ART UNIT

PAPER NUMBER

2115

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/692,743	Applicant(s) MATSUI ET AL.	
	Examiner Sean Weinman	Art Unit 2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/27/03</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claims 1-20 are presented for examination.

Drawings

Figure 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter that the applicant regards as his invention.

Claims 1-8, 11,13, and 15-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites "a clock" on page 19 line 10. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 19 line 7.

Claim 3 recites the limitation "the number of nodes" on page 19 line 24. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2115

Claim 5 recites "a determination" on page 20 line 8. It is unclear whether this is intended to be the same as or different from the "determination" recited on page 19 line 9. Additionally, **Claim 5** recites "a clock" on page 20 line 8. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 19 line 7.

Claim 6 recites "a clock" on page 20 line 13. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 19 line 7.

Claim 7 recites "a determination" on page 20 line 17. It is unclear whether this is intended to be the same as or different from the "determination" recited on page 19 line 9. Additionally, **Claim 7** recites "a clock" on page 20 line 17. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 19 line 7.

Claim 8 recites "a clock" on page 20 line 22. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 19 line 7.

Claim 11 recites "a clock" on page 21 line 12. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 21 line 4.

Claim 13 recites the limitation "the number of nodes" on page 22 line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 15 recites "a determination" on page 22 line 11. It is unclear whether this is intended to be the same as or different from the "determination" recited on page 22 line 8.

Claim 17 recites "a determination" on page 22 line 19. It is unclear whether this is intended to be the same as or different from the "determination" recited on page 22 line 15.

Claim 19 recites "a clock" on page 23 line 10. It is unclear whether this is intended to be the same as or different from the "clock" recited on page 23 line 7.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admission of Prior Art (AAPA) in view of Chang et al. (US Patent Application Publication 2003/0101311) in further view of Veendrick (US Patent No. 6,081,149

As per claims 1, 9, 11, and 19, the AAPA teaches the claimed invention comprising:

A data transmission system for carrying out a serial data transmission based on IEEE 1394 standard, the system comprising: an interface control semiconductor integrated circuit for controlling the serial data transmission (*Figure 9 and page 2 lines 7-11*), the interface control semiconductor integrated circuit including a plurality of protocol circuits (*Figure 9 and page 2 lines 7-20*).

The AAPA, however, does not teach that the interface control semiconductor integrated circuit includes a plurality of switches to control the clock of each of the protocol circuits. Additionally, the AAPA does not teach that there is a determination means for controlling the clock of the protocol circuit based on the 1394 control information from the interface control. Specifically, the AAPA teaches an interface

control semiconductor integrated circuit having a plurality of protocol circuits supplied by a clock that control the data transmission in a data transmission system. The AAPA does not teach switches for controlling the clock of the protocol switches and also does not teach a determination means for controlling the switches based on 1394 control information.

Chang et al. teaches a 1394 bus system which obtains information from the 1394 bus interface and then makes a determination whether to adjust the clock of the integrated circuits within the bus interface to reduce the power consumed by the system. Chang et al. teaches the invention comprising determination means for obtaining 1394-control-information from the interface control semiconductor integrated circuit and making a determination whether to supply or shut off a clock with respect to each of the protocol circuits based on the 1394-control-information (*Paragraph [0076]*). In summary, Chang et al. teaches a 1394 bus system that obtains 1394 control information from the interface and then a processor determines whether or not to control the clock of the various integrated circuit within the interface to reduce the power consumed by the system. Chang et al. not teach switches for controlling the clock of the protocol switches.

Veendrick teaches a plurality of switches that control a clock signal with their respective circuits for reducing the power consumed in a system. Veendrick teaches the claimed invention comprising a plurality of switches associated with the respective protocol circuits, each of the switches performing a switching between supply and shut-off of a clock (*Figure 1 and Col. 2 lines 20-32 and lines 41-46*). In summary, Veendrick

Art Unit: 2115

teaches a plurality of circuits having corresponding switches, which control the function of a common clock, to reduce the power consumed of a circuit. Additionally, Veendrick teaches a controller which determines the specific function of the clock for the specific circuits.

It would have been obvious to one of ordinary skill in the art to combine the teaching of the AAPA and Chang et al. because they both teach 1394 bus system with 1394 bus interfaces to control the data transmitted in the system. Chang et al. covers the deficiency of the AAPA by teaching that 1394 bus system obtains information from the 1394 bus interface and then makes a determination whether to adjust the clock of the integrated circuits within the bus interface. Additionally, it would have been obvious to one of ordinary skill in the art to combine Veendrick with Chang et al. because they both teach method of reducing the power consumption of system by controlling the clock of individual circuits within that system. Veendrick covers the deficiency of Chang et al. by teaching a plurality of switches used to control the clock signal of individual circuit within the system.

As per claims 2 and 10, Veendrick teaches the claimed invention comprising:

a clock control register for holding control information on the switches (*Figure 1 and Col. 2 lines 20-32 and lines 41-46 It would be obvious to one of ordinary skill in the art that a register to hold control information must exist for the clock controller know the status and control information of the switches*) ; and

a clock selector for controlling operation of the switches based on the control information (*Figure 1 and Col. 2 lines 20-32 and lines 41-46*), and

the determination means updates the control information held in the clock control register, based on the determination (*It would be obvious to one of ordinary skill in the art that the determination means updates the register so that the clock controller would know the current statuses of the switches*).

As per claims 3 and 13, Chang et al. teaches the claimed invention comprising: determination means makes the determination based on the number of nodes (*Paragraph [0076] Chang et al. does not explicitly teach the determination based on the number of nodes but it would be obvious to one of ordinary skill in the art that for the interface to anticipate an increase in bus traffic that the interface would makes it determination of whether to enter a power consumption mode based on the number of nodes and work within the system*).

As per claims 4 and 14, Chang et al. teaches the claimed invention comprising: determination means analyzes the packet and makes the determination based on a result of the analysis (*Paragraph [0006] and [0076]*).

As per claims 4-8 and 14-18, Chang et al. teaches the claimed invention comprising:

determination means makes a determination to supply a clock to one of the protocol circuits engaged in the data transmission, before/after a first/last packet has been sent or received in a transaction (*Paragraph [0006] and [0076] Chang et al. does not explicitly teach controlling the clock of the protocol circuits before/after the first/last packet has been sent but it would have been obvious to one of ordinary skill that since the determination of the power consumption mode is based on the traffic that the*

system would enter and exit the power consumption mode based on the timing of the first and last packets).

As per claims 12-18 and 20, it is directed to the method of controlling the protocol circuit in the interface control semiconductor integrated circuit in the data transmission system as set forth in claims 1-8 and 19. Since the AAPA, Chang et al., and Veendick teach the claimed data transmission system with the protocol circuit in the interface control semiconductor integrated circuit, the AAPA, Chang et al., and Veendick teach the method of controlling the interface control semiconductor integrated circuit in the data transmission system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Weinman whose phone number is (571) 272-2744. The examiner can normally be reached on Monday-Friday from 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on (571) 272-3667. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

Art Unit: 2115

have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sean Weinman
Examiner
Art Unit 2115

A handwritten signature in black ink, appearing to read 'Chun Cao', with a stylized, flowing script.

CHUN CAO
PRIMARY EXAMINER